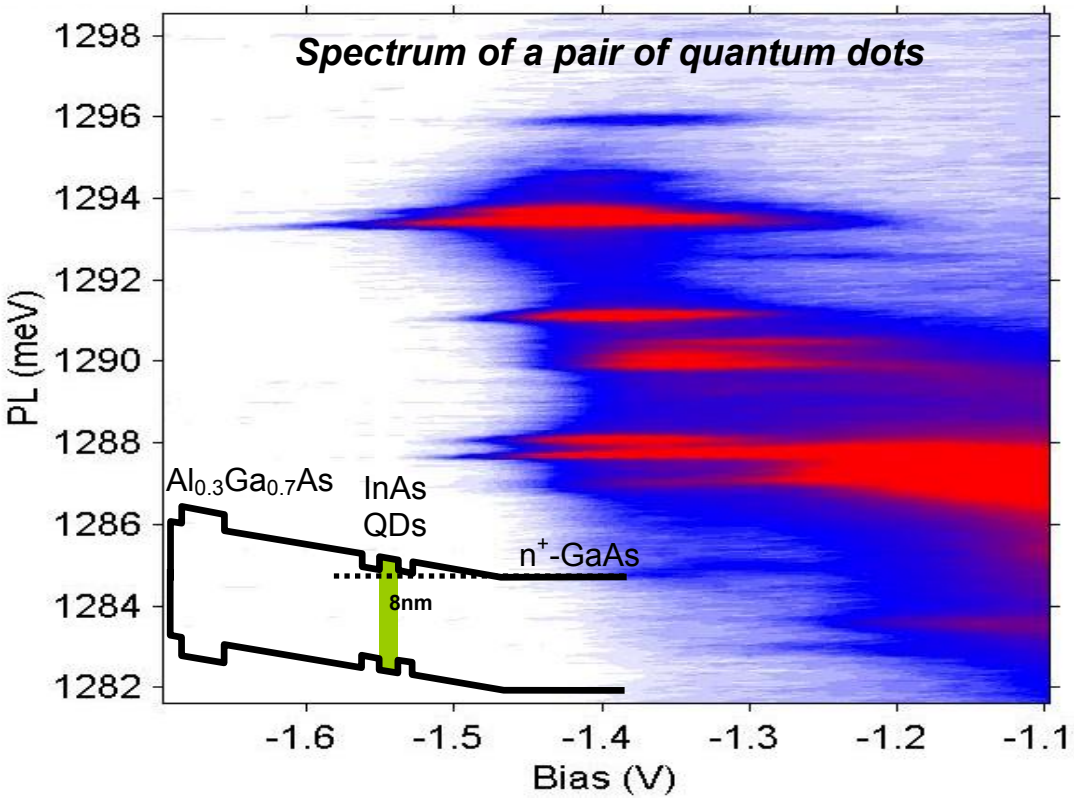

Fig. 1 — Injection of single electrons into a single pair of InAs quantum dots (each about 3-nm tall) in a Schottky diode is observed through its photoluminescence spectrum. The injection of each electron is observed as the addition of spectral lines at specific gate biases. Progress in this field requires understanding and control of these single electron processes and the optimization of materials such as this quantum dot molecule that enhance and optimize these optoelectronic effects.